DOCUMENT RESUME

ED 138 194 HE 008 859

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TITLE The Relation of University Faculty Turnover to Faculty Compliance with Departmental Grading and Publishing Practices.
PUB DATE [76]
NOTE 16p.

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Academic Rank (Professional); Administrative Policy; *College Faculty; Departments; *Faculty Mobility; *Grading; Longitudinal Studies; *Publications; *Tenure

ABSTRACT

A six-year longitudinal examination of university faculty compliance with departmental grading and publishing practices yielded three significant findings: (1) faculty increased their publications; (2) the increase was significantly greater at the associate professor level than at the assistant professor level; and (3) there appears a significant difference in grading and publishing behavior between those faculty who left the institution before they were considered for tenure and those who remained with the university for at least six years. (Author/MSE)

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ED138194

The Relation of University Faculty Turnover to Faculty Compliance with Departmental Grading and Publishing Practices

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Abstract

A six-year longitudinal examination of university faculty compliance with departmental grading and publishing practices yielded three significant findings. First, faculty exhibited a significant increase in deviation in the positive direction from departmental publishing practices. Second, the deviation was significantly greater at the associate professor level than at the assistant professor level. Third, by the end of the second year of university service, there was a significant difference in the degree of deviation from departmental publishing and grading practices between those who had left the university within six years and those who had remained with the university.

The Relation of University Faculty Turnover to
Faculty Compliance with Departmental Grading
and Publishing Practices

The publication of scholarly research and the evaluation of student learning are two activities which university faculty have pursued for many years. However, the quality of faculty publications or the merit of an individual's grading practices cannot be judged with a high degree of objectivity. As Caplow (1958) indicated, once a faculty member's work has been published, its relative worth often has been judged by the quality of the source in which the work appeared. Determination ofthe source's quality again becomes a subjective decision. There is also disagreement among university faculty concerning grading practices (Warren, 1971). No universal agreement has existed among university faculty on the weighting of the multiple components which constitute the single dimension of a grade. Thus, with the publication of scholarly research and the assignment of grades to students, the faculty member has no fixed standards on which to rely. Since grading and publication practices cannot be objectively verified, the faculty member may look to others for cues to indicate proper behavior.

Although various studies have been investigated faculty publication practices (Gallant and Prothero, 1972; Fulton and Trow, 1974; and Behymer and Blackburn, 1975), it appears there has been little attempt to jointly examine publishing and grading practices of university faculty members. One objective of this study was to investigate changes in university faculty grading and publishing practices. A second purpose was to investigate the relationship of departmental size, departmental cohesiveness and academic rank to faculty grading and publishing patterns. Finally, this study examined the relation between

faculty remaining with or leaving the university and their compliance with departmental grading and publishing practices.

This study differs from others examining the relation between faculty productivity and faculty turnover in three ways. First, it is a longitudinal study which follows a group of faculty members over a six-year period, from the beginning of the faculty members' university career to the year the faculty members are considered for tenure. Second, productivity and grading behaviors of the individuals are measured in relation to the behavior within the faculty members' departments. Third, both the effects of deviation from departmental publishing and grading practices are considered in the examination of faculty turnover within the university.

Related Research

Behymer and Blackburn (1975) have suggested that the environmental variables of institutional prestige, departmental size and departmental cohesiveness, and the personal variables of academic rank and age of the faculty member may have an effect on faculty productivity and grading practices. The amount of institutional prestige of a faculty member's current university has been found to be related to faculty productivity (Crane, 1965). Faculty at prestigious universities tend to outproduce those faculty at less prestigious universities. Crane's finding has been supported by Eckert and Williams (1972).

Several studies have reported a relationship between departmental size and a faculty member's productivity. Although Wispe (1969) reported a positive relationship between departmental size and productivity, Gallant and Prothero (1972) found that members from very large or very small departments did not produce as well as members from departments of moderate size. This finding was supported by Behymer and Blackburn (1975) who reported greatest productivity occurred in departments having 11 to 15 members.

A third variable which may have an influence on a faculty member's behavior in relation to other members of the department is departmental cohesiveness. Golembiewski (1962) found a relation between group cohesiveness and group behavior when cohesiveness was measured using three dimensions: attractiveness of the group for its members, the degree of coordination of the efforts of the members working toward a group goal, and the level of motivation of group members to do a task with zeal and efficiency. In a study by Back (1951) the attractiveness of the group was varied by manipulating the similarity of a subject's opinion to the subject's partner, the attractiveness of the group goal and the amount of group prestige. The results showed the greater the attraction to the group, the greater the compliance to the group's behavior.

Behymer and Blackburn (1975) found the most important variable which related to faculty productivity was academic rank. The higher rank was found to be associated with a higher productivity level. This finding was also substantiated in another study which determined the relation between faculty productivity and academic rank of an individual (Fulton and Trow, 1974). The studies mentioned above agree with previous social psychological research concerning the relationship between the status of an individual and the degree of the individual's compliance to group practices. Kiesler and Kiesler (1969) reported that when there was no clear evidence that the group's practices were in error, the higher status person would comply with the group norm to a greater degree than a lower status person.

Behymer and Blackburn (1975) reported that production increases with age until the individual is in his or her late forties, then declines later in the individual's career. However, faculty from high prestige universities, even at the end of their careers, tend to outproduce the faculty from medium and low prestige universities. This result agrees with the findings of Pelz and Andrews (1966). Further, Behymer and Blackburn found that those faculty who were pro-

ductive early in their careers tended to maintain relatively high production over time, while those who started with low productivity tended to remain low producers throughout their careers.

Methodology

Faculty Sample

The faculty sample included all male full-time faculty beginning as assistant professors on the Bloomington Campus of Indiana University during the 1968-1969 academic year in the School of Arts and Sciences. The study was limited to one university to control for institutional prestige. Because the number of female faculty entering as assistant professors in 1968 was extremely small, and because studies have reported sex is related to publishing productivity (Babchuck and Bates, 1962; Eckert and Williams, 1972), only male faculty members were studied to control for sex differences. The sample was restricted to beginning assistant professors to control for age and to reduce the possibility that the faculty selected would have formed grading patterns or had experience in publishing research. The 33 faculty members in the sample represented the departments of Anatomy and Physiology, Astronomy, Botany, Economics, English, French, German, Linguistics, Mathematics, Physics, Political Science, Psychology, Spanish, and Zoology.

Data Sources

Publication Data. The number of articles and the total number of publications for the selected faculty members and their colleagues in the respective departments was determined from an official university list of faculty publications for the years 1968 through 1970. For the years 1971 through 1973, individual departmental publishing lists were secured. Data were available from one department in 1970 so that the number of publications on the departmental list for each faculty member could be compared to the number of publications on the university

list. A correlation of .90 was found between the number of articles reported on the university list and the number of articles reported on the departmental list. The degree of correspondence between the two sources was judged to be sufficiently high for the publication data tc be used in this study.

Grading Data. Individual faculty and departmental grade averages for undergraduate courses were obtained from the university registrar's grade distribution lists for each faculty member. Grade distributions for selected faculty were also retrieved manually from the end-of-semester grade reports. Since the degree of correspondence between these two sources was high, it was judged that the grading data used in this study was valid.

Departmental Cohesiveness. Ratings for departmental cohesiveness were obtained from two university deans who were at the university during the years 1969 through 1974. The definition of cohesiveness given by Golembiewski (1962) was presented to the deans. The deans then ranked the departments with respect to the amount of cohesiveness they perceived to exist in each of the departments. The stability of the judges ratings was examined by determining the percentage of agreement between the two judges. The percentage of agreement was 89%. Thus, the judges' ratings appeared to be sufficiently stable to divide the departments into two groups on the dimension of cohesiveness.

Departmental Size. The sources for departmental size were the university catalogs for the years 1968 through 1974. A six-year median departmental size was determined for each department. Departments above the median departmental size of 28 were classified as larger departments. Those with 27 or fewer members were classified as smaller departments.

Faculty Rank. Faculty rank was also determined from the university catalogs for the years 1968 through 1974.

Data Collection and Analysis. Measures for publication production and grading behavior of the faculty and their respective departments were collected for the academic years 1968-1969 through 1973-1974. For each faculty member in the study two publishing indices and one grading index were computed for each year the faculty member remained with the university. The first publishing index was the standardized signed difference between the number of articles an individual faculty published per year and the median number of articles published by the members of the respective departments. For example, if an individual faculty member published 1 article in 1972, while the median number of articles published by his department in that year was 2, the difference or deviation would be -1. The difference was then standardized by dividing the difference by the standard deviation of the number of articles per department. The second publishing index utilized the total number of publications instead of the number of articles. The median was considered a more appropriate statistic than the mean, since the distributions of the number of articles and the number of total publications were positively skewed.

To determine the grading index, the average undergraduate grade assigned by a faculty member was computed for each course. Since the average assigned course grade for upper division courses was much higher than for lower division courses, a separate semester average was determined for each faculty member for lower and upper division courses. The grading index was standardized by determining the signed difference between a faculty member's mean course grade and the mean course grade given by other members of the respective departments, and then dividing the difference by the standard deviation of all course grades given within a particular department. The standardized index was determined at the end of each semester for lower and upper division courses separately.

A repeated measures analysis of variance design was used to investigate faculty grading and publishing behavior over time and the relation of faculty be-

havior to the selected variables. For the repeated measures analysis the entire six-year period was divided into three subperiods: 1968-1969, 1970-1971, and 1972-1973. Publication and grading data were combined within each of the three subperiods. Thus, there were three subperiods or trials within each repeated measures analysis of variance.

To test the relation between compliance and remaining with or leaving the university a discriminant analysis was used. The two groups used for the analysis were those faculty members who had left the university before completing six years of service with the university and those faculty members who had completed at least six years of service with the university. The criterion measures for the discriminant analysis were the article publication and grading indices for the faculty member at the end of the second year of service with the university.

Results

Before the hypotheses were tested, stability measures for the publishing and grading indices were determined. The establishment of the stability of the indices was important to support the contention that the indices were not based on random observations. After stability measures for the indices were determined, tests of the publishing and grading hypotheses were made. Finally, the discriminant analysis was performed on the publishing and grading data.

In order to determine whether or not the publishing and grading indices were fairly stable measures of faculty behavior, the consistency of the indices was examined. Consistency of the publishing indices was determined by intercorrelating the three trials associated with the article publication and total publication indices The median correlation coeffiecients were .58 and .51 for the article publication and total publication indices, respectively. Thus, the publication data appeared to be a fairly stable measure of publishing practices.

To examine the consistency of faculty grading patterns, the first and second semester mean course grades given by the faculty sample were correlated separately for upper and lower division courses. The correlation for upper division courses was .69, while the correlation for lower division courses was .73. Thus, the grading data appeared to exhibit a moderately high degree of stability.

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Insert Table 1

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The publishing indices found in Table 1 appeared to increase over time and appeared to be greater for faculty in larger and less cohesive departments. This indicated that faculty published more articles relative to the rest of the members in their departments the longer the faculty member stayed at the university. Also faculty members in larger and less cohesive departments tended to produce relatively more articles and total publications than faculty in smaller and more cohesive departments. There appeared to be no pattern in the changes of the grading index.

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Insert Table 2

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The average publishing index found in Table 2 appeared to be considerably greater at the associate professor level than at the assistant professor level. This finding would indicate that the individual had more articles published and more total publications as an associate professor than as assistant professor when compared to the other members of his department. The difference in the grading indices with respect to rank appeared to be less dramatic.

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Insert Table 3

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The results of the analysis of variance found in Table 3 indicated that the increases over time for the article publication index and the total publication index were significant ($F = 4.07$, $p < .05$ and $F = 3.55$, $p < .05$, respectively). The analysis of variance also showed that the difference in the publishing indices between the larger and less cohesive departments and the smaller and more cohesive departments was not significant. The difference in the article publishing index for assistant and associate professorial levels was significant ($F = 7.06$, $p < .05$), whereas the differences for the total publishing and grading indices were not significant.

The discriminant analysis indicated there was a significant difference in the degree of deviation from departmental grading and publishing practices between those who eventually left the university within six years and those who remained with the university throughout the six-year period of the study. A significant discriminant function ($F = 7.13$, $p < .05$) was found when examining the relation between faculty turnover and faculty compliance with departmental practices. By the end of the second year of university service, the discriminant function indicated there was a significant difference in the degree of deviation from departmental publishing and grading practices between those who had left the university within six years and those who had remained with the university through the six-year period of the study. Those who remained tended to deviate moderately in the positive direction from departmental article publication practices (.38) and slightly in the positive direction from departmental grading practices (.07). Those who left the university within six years deviated moderately in the negative

direction from departmental article publishing practices (-.36) and grading practices (-.23).

Discussion and Conclusions

With respect to the changes in university faculty publishing and grading practices over a period of six years, it appeared that faculty deviated significantly more from departmental practices over the six-year period with respect to article publishing and the total publishing indices. This finding may have resulted from the relatively low production level found in most departments. For a majority of the departments the median article production rate was approximately one per year. Thus incoming assistant professors may have felt the need to deviate in the positive direction in order to survive academically. The grading index appeared to follow no particular pattern over the six-year period.

In the examination of the relationship between departmental size, departmental cohesiveness and academic rank to faculty grading and publishing patterns, faculty in both smaller and more cohesive departments appeared to have complied more to publishing practices of their departments than faculty in both larger and less cohesive departments; however, the only significant difference existed between assistant and associate professors for the article publishing index.

The relationship between faculty members remaining with or leaving the university and their compliance with departmental grading and publishing practices appeared to have been strong. Those who remained with the university conformed more to their departmental grading practices within the first two years of service than those who eventually left the university within the six years. On the other hand, the results concerning faculty publishing practices were reversed. Those who remained with the university tended to deviate more from their departmental publishing practices within the first two years of service than those who eventu-

ally left the university within six years.

These findings could be very pertinent for administrators who need to make decisions concerning faculty members at the end of the second year of service with a university. For by the end of the second year of service, there appeared to have been a significant difference in grading and publishing behavior between those faculty who left the university before they were considered for tenure and those who remained with the university at least six years. Thus, with information concerning an entire department's publishing and grading practices, an administrator may predict which new faculty will leave the university or remain with the university until considered for tenure.

Table 1

Average Article and Grading Indices for the Variables of Departmental Cohesiveness and Size Across Three Time Trials

Index	Variable Level	n	1968-1969	1970-1971	1972-1973	Total
Article Publishing	More Cohesive	7	-.04	-.16	- .02	-.08
	Less Cohesive	7	.01	.75	2.01	.92
	Larger Departments	8	.36	.55	1.99	.97
	Smaller Departments	6	-.30	.10	.25	.02
Total Publishing	More Cohesive	7	-.18	-.12	- .03	-.11
	Less Cohesive	7	-.13	.45	2.14	.82
	Larger Departments	8	.12	.32	2.51	.99
	Smaller Departments	6	-.36	.05	- .04	-.12
Grading	More Cohesive	11	.40	-.03	.31	.23
	Less Cohesive	7	-.45	-.10	- .11	-.23
	Larger Departments	8	-.05	.07	.27	.10
	Smaller Departments	10	.21	-.21	.00	.00

Table 2

Average Article and Grading Indices for the

Variable of Faculty Rank

Index	n	Assistant Professor	Associate Professor
Article Publishing	12	.27	1.50
Total Publishing	12	.07	1.44
Grading	13	.11	.42

Table 3

Analysis of Variance of Average Article and Grading Indices

for the Variables of Departmental Cohesiveness, Size and Faculty Rank

Across Three Time Trials

Index	Cohesiveness	Departmental Size	Faculty Rank	Time
Article Publishing				
F - value	3.16	2.71	7.06	4.07
p (significance)	.10	.12	.02	.03
Total Publishing				
F - value	2.00	2.98	3.04	3.55
p (significance)	.18	.11	.11	.04
Grading				
F - value	4.29	.17	1.95	.67
p (significance)	.06	.69	.19	.52

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